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VOLUTIDAE (MOLLUSCA:GASTROPODA) FROM THE CAPRICORN CHANNEL, CENTRAL QUEENSLAND, AUSTRALIA

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ABSTRACT

Athleta (Ternivoluta) studeri (Martens), *Volutoconus grossi* (Iredale), *Notovoluta gardneri* sp. nov., *Amoria maculata* (Swainson), *Amoria necopinata* sp. nov., and *Nannamoria parabola* Garrard are recorded from the Capricorn Channel, Central Queensland.

Notovoluta gardneri is closely related to Miocene species of *Notovoluta* from Victoria and constitutes the first record of the genus on the east coast of Australia.

INTRODUCTION

In a previous paper on deep water volutes from the Capricorn Channel, the author (Darragh, 1979), described two species of *Athleta (Ternivoluta)* and *Nannamoria* and noted that the affinities of the species were with southern Australian fossil and living volutes. It was anticipated that other genera with southern Australian affinities would probably come to light.

Further dredging by trawlers has provided new material some of which is formally described in this paper. Amongst specimens in hand through the kindness of Mrs E. Coucom and Messrs F. McCamley and B. Beutel are species of *Athleta (Ternivoluta), Notovoluta, Nannamoria, Amoria, Cymbiola (=Cymbiolaca)* and *Volutoconus* which permit a more accurate assessment of the deep water volute fauna of the Capricorn Channel. It is hoped that this paper will provide a stimulus for additional material to be fowarded to the author for study.

Unless stated otherwise, specimens upon which records are based are held in the National Museum of Victoria.

Athleta (Ternivoluta) Martens, 1897
Athleta (Ternivoluta) studeri Martens, 1897

This species is newly recorded from the Capricorn Channel off North Reef in 275m. Hitherto it has been recorded from off Cape Byron, northern New South Wales to Tin Can Bay, Queensland. (Darragh, 1971) in depths ranging from 100m to 180m. *Athleta (Ternivoluta) insperata* Darragh, 1979 was dredged off Lady Musgrave Island in depths ranging from 188m to 365m. The two species have not yet been found together.

Notovoluta Cotton, 1946

Notovoluta is an endemic Australian genus composed of about five living species, one of which is also known as a fossil and about 10 other fossil taxa. The genus ranges in age from Late Eocene to the present. Living species range from the mid-west coast of Western Australia across to Eastern Victoria. The new species described here extends the range into Queensland but as yet there are no recorded occurrences of the genus between Eastern Victoria and this new record.

Notovoluta gardneri sp. nov.

Description

Shell ovate-elongate, fusiform with a gently tapering spire. Protoconch dome shaped of 3½ smooth convex whorls which merge imperceptbly into the spire whorls. First and second teleoconch whorls flat, subsequent whorls flat to slightly concave posteriorly and convex anteriorly producing a weak shoulder. Body whorl concave at the posterior suture then convex and tapering gently to the canal. Axial and spiral sculpture absent. Aperture elongate-oval, about 2/3 the height of the shell. Columella covered with a very light glaze and bearing four strong anterior plaits and one or two weaker posterior plaits. Siphonal notch shallow, siphonal fascole absent.

Colour of shell, orange-brown with white triangular markings, the apex of the triangle towards the aperture. At the shoulder and at the anterior third of the body whorl two bands of widely spaced dark brown patches.

Animal with a broad flat foot; no operculum; siphonal appendages paired, short, somewhat spatulate; head entire with two short tentacles, eyes situated behind the tentacles. Tubular salivary glands of digestive system long and only with difficulty separated from the racemose salivary gland. Gland of Leiblin separate from the oesophagus. Penis not grooved, vas deferens sunk into body of animal. Radula uniserial tricuspid with the centre cusp the longer. Cusps slightly fanglike.

Dimensions

Holotype	F 31710	L64	HA39	W22
Paratype	QM Mo 11579	69	43	26
Paratype	F 31711	67	43	26

Location of Types

National Museum of Victoria: Holotype F 31710, Paratype F31711 collected Paul Gardner 1 September 1981 Queensland Museum: Paratype Mo 11579

Type Locality

200-220m, northeast of Lady Musgrave Island, Capricorn Channel, Central Queensland.

Occurrence

220m between Lady Musgrave Island and Lady Elliot Island; 230m, east of Lady Musgrave Island; 200-220m, northeast of Lady Musgrave Island, Capricorn Channel, Queensland.

Material

Types and seven other specimens (Queensland Museum 5 specimens, F. McCamley 2 specimens).

Comments

This species is distinguished from the other known living species by the absence of axial sculpture. In shape it most closely resembles an undescribed fossil species from the Early Miocene of Victoria but that species has numerous close set threads covering the whole spire.

This species is named for Paul Gardner in recognition of his assistance in obtaining live taken material of the species for scientific study

Volutoconus Cross, 1871

Volutoconus grossi (Iredale, 1927)

A single specimen (length 50mm) from 134m in the Capricorn Channel is much smaller than typical specimens from shallow water in the Keppel Bay area. The latter can reach over 100mm.

Nannamoria Iredale, 1929

Nannamoria parabola Garrard, 1960

This species is newly recorded from 275m off North Reef in the Capricorn Channel. Hitherto it has been recorded from 130m to 250m off Moreton Island. *Nannamoria inopinata* Darragh, 1979 was dredged from off Lady Musgrave Island in depths ranging from 320m to 365m.

Amoria Gray, 1855

Amoria maculata Swainson, 1822

This species is present in the Capricorn Channel at 134m. It is one of the most common species of *Amoria* and ranges from Lizard Island, North Queensland south to Cape Moreton, South Queensland. There are isolated records from Woolgoolga, northern New South Wales and Lord Howe Island.

Amoria necopinata sp. nov.

Description

Shell small for the genus, fusiform of about 2½ adult whorls, with a slender conical spire. Protoconch conical of 2½ smooth, slightly convex whorls coiled in the axis of the shell and merging imperceptibly with the spire whorls. First teleoconch whorl very slightly convex, second and penultimate whorl with a pronounced swelling towards the anterior suture. Body whorl slightly depressed at the suture, then convex to produce a weak shoulder and then tapering rapidly towards the anterior canal. No axial or spiral sculpture. Aperture 2/3 the height of the shell, very narrow. Columnella bearing 4 strong plaits with one or two weak secondary plaits inserted between them. Siphonal notch wide; siphonal fasciole weak to well developed and with a prominent posterior margin.

Animal and radula unknown.

Colour of shell cream with thin, widely space, zig-zag chestnut lines.

Dimensions

Holotype	F 31750	L 33	HA 22	W 14
Paratype	C 137092	30	21	13
Paratype	F 31751	32	2213	

Location of Types

National Museum of Victoria: Holotype F 31570 dredged by T. Neilson presented B. Beutel. Paratype F 31751 presented by Mrs E. Coucom.

Australian Museum, Sydney: Paratype C 137092 dredged by T. Neilson presented B. Beutel.

Type Locality

134m. Capricorn Channel, Central Queensland.

Material

Types and two other specimens.

Comments

This species at first sight resembles a miniature *Amoria undulata* Lamarck and in particular the small specimens of that species which were described as *Amoria benthalis* McMichael. However, it differs from *A. undulata* in having a much smaller and thinner shell, is not as swollen at the shoulder, is more elongate and has a much more slender and relatively produced spire.

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LITERATURE CITED

Darragh, T.A., 1971. Revision of the Australian Tertiary Volutidae (Mollusca: Gastropoda). 1. The subfamily of Athletinae. *J. malac. Soc. Aust.* 2 (2): 163-165, Plates 14-16.

_____, 1979. New species of *Athleta (Ternivoluta)* and *Nannamoria* (Mollusca: Volutidae) from the Capricorn Channel, Central Queensland, Australia. *Ibid* 4(3): 129-134, Figs 1-11.

Notovoluta gardneri sp. nov., F31709, radula.

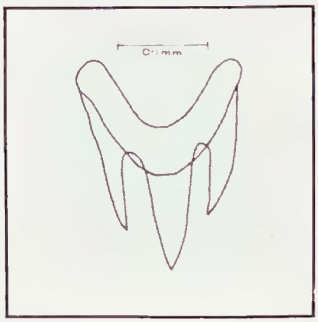

Figure 1, 3 *Notovoluta gardneri* sp. nov., holotype, F341710, x1.

Figure 2, 5 *Amoria necopinata* sp. nov., paratype, C137092, 134m Capricorn Channel, x l.5.

Figure 4, 7 *Amoria necopinata* sp. nov., holotype, F 31750, xl.5.

Figure 6, 8 *Notovoluta gardneri* sp. nov., paratype, Mo 11579, 230m E. of Lady Musgrave Island, x1.